

AVIATION WORK GROUP HANDOUT

Aviation System Plan Evaluation, Examples

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I. Washington Aviation System Plan Criteria, 1973

- A. Airports were identified by Design Type
- B. Entry Criteria -- None
- C. Airports were evaluated using the following criteria:
 - a. Public use – unrestricted use by the public
 - b. Public ownership – owned by federal, state, county, or incorporated government.
 - c. Required or sponsored by a state agency
 - d. Currently served by scheduled airline service
 - e. Serves the needs of a remote community (30 minutes from an airport)
 - f. Required to meet future aviation and community (city or town with a population of 2000 or more) needs within 30 minute commute time.
 - g. Supports economic, industrial or resource development (examines economic, industrial, or resources in the area)
 - h. Provides for safety or recreational needs.
 - i. Other considerations - Special needs
 - Number of based aircraft and operations
 - Locations relative to the communities served
 - Facilities and services provided
 - The needs and possibilities for facility expansion.
 - Unobstructed approaches and/or the ability to meet approach standards.
 - Physical conditions of the facilities under comparison
 - Financial histories of the airports
 - Attitudes of the sponsoring entities towards the airport
 - Environmental impacts and the degree to which proper land use management is practiced.
 - j. The Gaps

- a. New airports are selected if an airport is not within 30 minute drive time of a community as defined and airports with severe uncorrectable design standards or physical limitations.

Airports found to meet the criteria are then analyzed against the NPIAS criteria to determine if they still meet the criteria or can meet the criteria.

D. The final recommendation included was established by airport design with minimum standards.

Table 3.1 Airport Classification and Criteria, 1973

Facilities	Landing Strip (LS)	Basic Utility (BU)	General Utility (GU)	Basic Transport (BT)	General Transport (GT)	Large Transport (LT)
Minimum Airport Size (runway/taxiway), acres	55	70	90	142	determined by airport	
Runway Length, feet	2,000	2,200	3,200	4,600	5,700	8,000
Runway Width, feet	50	50	75	100	100	150
Runway Strength, pounds	<12,500	<12,500	= 12,500	<60,000	>175,000	>175,000
Approach Capability *20,000 annual operations or greater, except ILS	visual	visual	instrument	instrument	instrument	instrument
Approach Slope	20:01	20:01	34:01:00	34:01:00	50:01:00	50:01:00
Runway Lights*	MIRL	MIRL	MIRL	MIRL	MIRL	MIRL
Taxiway Type, with paved apron	Exit	Exit	Parallel	Parallel	Parallel	Parallel
*30,000 annual operations	Parallel	Parallel	--	--	--	--
Parking Apron Area, square yards	1,800	3,000	7,200	34,800	determined by airport	

Note: 1) Runway light minimum light intensity with 20,000 annual operations. High intensity lighting at GT and LT airports. 2) Minimum planning criteria and estimated cost for facility construction and expansion.

II. Washington Aviation System Plan Criteria, 1996

- A. Airports were identified by FAA Design Type. Design type changed in the 1980s to a classification known as Airport Reference Code, i.e. A-1, B-1
- B. Airports entry criteria:
 - a. All public use airports with at least 5 based aircraft
 - b. Located at least 15 ground-travel miles from the nearest WASP airport
 - c. Special use airports with a clear State interest
- C. Also the following criteria was applied:
 - a. Was the airport included in, or eligible for inclusion in the NPIAS
 - b. Was the airport in close proximity to another airport providing the same or higher level of service?
 - c. Was there a history of significant activity at the airport?
 - d. Was the airport ownership arrangement compatible with, and supportive of public use?
 - e. Were the existing service characteristics of the airport, and its potential for any anticipated expansion, acceptable?

- f. Was there a special need for the airport (i.e. unique federal, state, or local interest)?

III. United State Department of Transportation (USDOT)

Demand Factors

The United State Department of Transportation (USDOT) recognizes that within any transportation system, airports contribute to air transportation and economic needs at varying levels. They also have varying roles in the system and their needs for facilities and services also differ accordingly. The following factors were developed and should be considered within any transportation system:

1. Coverage. Some airports may capture a greater portion of the State's aviation demand and, as a result, play a more elevated role in the system.
2. Accessibility. Airports within close proximity to a four-lane highway tend to have higher rates of utilization and also contribute to the State's multimodal accessibility.
3. Sectors Served. Demand for both aviation and aviation-related services are typically correlated with various socioeconomic/demographic indicators such as population and employment. In addition, higher concentrations of pilots and registered aircraft owners usually signal demand levels and greater rates of airport utilization.
4. Based Aircraft. Higher numbers of based aircraft reflect the role the airport is playing in meeting the air transportation and economic needs of the market area it serves.
5. Facilities. Airports that have a more advanced levels of facility development, longer runways, and more precise approach capabilities, precision or non-precision, tend to play more essential roles within the airport system.
6. Services – Services, much like facilities, provided at system airports are keys to attracting both locally based and visiting demand. Services that bear upon an airport's role within a particular system include fuel, maintenance/repair, flight training, and other aircraft/airport services such as rental and charter.
7. Expansion Capabilities – Manmade obstructions, natural terrain, environmental factors, and local conditions can inhibit or preclude airport expansion. For airports to maximize their long-term contribution, they should ideally be expandable for both airside and landside development.

IV. Field Formulation of the National Plan of Integrated Airport Systems (NPIAS), Order 5090.3C (summary part)

- A. In maintaining the plan the Secretary shall consider the needs of each segment of civil aviation and the relationship of each airport to the rest of the Transportation system in the particular area; forecasted technological developments in aeronautics and forecasted developments in other modes of intercity transportation.
 - a. ... May not be limited to meeting the needs of any particular classes or categories of public use airports

- b. The plan should include the kind and estimated cost of eligible airport development ... consider necessary to provide a safe, efficient, and integrated system of public use airports adequate to anticipate and meet the needs.....
- c. Specific requirements:
 - i. Tall structures that reduce safety or airport capacity
 - ii. Needs of air cargo operations
- B. The general principles guiding Federal involvement have remained unchanged since a national airport system was envisioned in 1946. The following attributes need to be met to meet the demands of air transportation:
 - a. Airports should be safe and efficient; located at optimum sites and developed and maintained to appropriate standards.
 - b. Airports should be affordable to both users and Government, relying primarily on user fees and placing minimal burden on the general revenues of local, state and Federal Government.
 - c. Airports should be flexible and expandable, able to meet increased demand and to accommodate new aircraft types.
 - d. Airports should be permanent, with assurance that they will remain open for aeronautical use over the long term.
 - e. Airports should be compatible with surrounding communities, maintaining a balance between the needs of aviation and the requirements of residents of neighboring areas.
 - f. Airports should be developed in concert with improvements to the air traffic control system.
 - g. The airport system should support national objectives for defense, emergency readiness, and postal delivery.
 - h. The airport system should be extensive, providing as many people as possible with convenient access to air transportation, typically not more than 20 miles travel to the nearest NPIAS airport.
 - i. The airport system should help air transportation contribute to a productive national economy and international competitiveness.
- C. Obligation to consider other modes of transportation. Appropriate consideration should be given to the transportation system in that particular area, forecasted technological developments in aeronautics, and development forecasted in other modes of intercity transportation.
- D. Initial planning for individual airports included in the NPIAS should be coordinated by the district and regional offices with the airport operator/sponsor, aviation commission, local and state governments, military representatives, aviation users, and other local planning agencies. Coordination should occur with aviation industry organizations (ATA, NASAO, ACI, AOPA, ALPA, GAMA, NBAA, etc.)
- E. Coordinating the NPIAS with Other Modes of Transportation. Coordination shall be accomplished at the regional level.
- F. Entry Criteria and procedures
 - a. Uses of Airport Classification System as first criterion.

- i. Commercial Service – Primary more than 10,000 passengers annually or Non-primary between 2,500 and 10,000 passengers annually. May also include airports that may become commercial service as determined by the FAA
 - ii. GA Aviation Airports Public Use – Reliever or enplane 2,500 or more passengers annually
 - iii. Other GA Airports – intended to meet the needs of general aviation users, except passenger or cargo for hire.
- b. Existing airport that is included in a accepted State Airport System Plan (SASP) or metropolitan Airport System Plan (MASP), may be include if
 - i. Has at least 10 based aircraft, and Serves a community located at least 30 minutes or more average ground travel time from the nearest or proposed NPIAS airport.
- c. A proposed airport located 30 minutes or more average ground travel time from the nearest existing NPIAS airport may be included if there is evidence that at least 10 aircraft will be based at the airport within the first year of its operations.
- d. An existing or proposed airport not meeting the criteria in 2.5a, b, or c may be included if it meets all four of the following requirements:
 - i. It is included within an accepted SASP and/or MASP
 - ii. It serves a community more than 30 minutes from the nearest existing or proposed NPIAS Airport,
 - iii. It is forecast to have 10 based aircraft
 - iv. There is an eligible sponsor willing to undertake the ownership and development of the airport.
- e. An existing or proposed airport not meeting the criteria of 2.5a, b, c, or d may be included in the NPIAS on the bases of a special justification showing a significant national interest.
 - i. The benefits of the airport will exceed its development cost (Estimating the Regional Economic Significance of Airports” DOT/FAA/PPA-92-6, September 1992)
 - ii. Documentation on isolation (communities in remote areas or on islands) airports to serve the needs of native American communities, airports needed to support recreation areas, or airports needed to develop or protect important national resources.
- f. General Aviation Heliports – Public use, 4-based rotorcraft, 800 annual itinerant operations, or 400 annual operations by air taxi rotocraft.
- g. Reliever Airports
 - i. Can provide substantial capacity
 - Minimum 100 based aircraft or 25,000 annual itinerant operations.
 - ii. Commercial service airport that serves a metropolitan area with at least 250,000 persons or 250,000 annual enplaned passengers and operates at 60 percent of capacity.
- h. Grand fathered airports –subject to grant obligations
- i. Airports Receiving U.S. Mail Service
- j. Airports with US Military Activity

- k. Surplus Military Airfields
- l. Joint Use Airports – airports that have existing written joint use agreements between the military and the local sponsor

V. Other State Aviation System Plans

A. Georgia Classification System

1. Evaluation Criteria

Each airport contributes to the aviation system by supporting different types and levels of aviation activity. The types of facilities and services were determined based on their current contribution to the aviation system. The following factors were ranked from high to low. A weighting system was also developed to

- a. Coverage – 30 minute drive time, number of square miles covered
- b. Accessibility – distance from a four lane highway
- c. Sectors Served – population, employment, pilots and registered aircraft owners within 30 minutes.
- d. Airport Facilities – runway length, instrument approach, type, parallel taxiway system, and onsite weather-reporting capabilities
- e. Airport Services – Jet A, Avgas, or both, aircraft repair services, availability of air charter service, training
- f. Expansion Potential – relationship with community and neighboring communities, physical/topographical constraints, environmental issues, manmade constraints and financial limitations.

2. Airport Classification

Level I – general aviation airports should accommodate all single-engine and some small twin-engine general aviation aircraft. Airports at this level represent the minimum to which airports in the system are expected to develop:

Level II – Business airport of local importance. Business airports of local significance are capable of accommodating all business and personnel use single and twin-engine general aviation and a broad range of corporate/business jets. Airports are expected to develop:

Level III – Business airport of regional importance. Air carrier airports and general aviation airports of regional significance are capable of accommodating commercial aircraft or a variety of business and corporate jet aircraft.

Level III – Commercial Service Airports. Commercial airports are airports that have scheduled passenger service.

B. Nebraska Aviation System

1. Evaluation Criteria

- a. Access. How should access be defined?
 - Is access the same or different depending on how an airport is classified? For example emergency, recreation, local, regional, or of statewide significance.
 - How should access be defined?
 - What is rural isolation?
 - b. Emergency Response. How should emergency airports be defined?
 - Is the airport located in an area that would provide emergency landing opportunities in remote areas or other areas of concern
 - Does the airport play a critical role in the regions emergency response network (*SAR, FEMA, Fire*)
 - Does the airport accommodate medical needs for hospital within 30 minutes for hospitals having 20 beds or more.
 - c. Economic Development Opportunities
 - Airports Serving Economic/Trade Centers. Map trade centers with (\$12 million) in retail sale (30 mile driving distance measured along road segments)
 - Airports Meeting Business/Air Cargo Needs. Map business that are most likely to use air cargo and map airports served by air cargo operators.
 - Airports Meeting Agricultural Needs. Map aerial applicator needs
 - d. Minimum Facility Service Standards
 - Analyze and map airport categories to determine compliance with minimum standards such as runway length, taxiway, navigational aids, lighting, visual approach aids, FBO, fuel
 - Airports Meeting FAA Operational Capacity Guidelines
 - Airports Meeting PCI above 70
 - e. Social/Cultural
 - Airports Serving Tourism/Cultural Centers
 - Airports Serving Isolated Areas
- 2) Aviation Classification System
- National – maintains a consistent and contributing role in enabling the local, regional, and statewide economy to have access to and from the national and worldwide economy
- Regional -- maintains a contributing role in supporting the local and regional economies and connecting it to the state and national economies
- Local -- maintains a supplemental contributing role for the local economy
- Limited -- maintains a limited contribution role for the local economy